

CLAIMS

I claim:

1. A bird feeder comprising:

5 a hollow container having an approximately rectangular shape with an interior surface and an exterior surface defined by a front panel with an upper portion and a lower portion and formed with a horizontally rectangular aperture along the entire width of the lower portion, a rear panel parallel to said front panel, a right panel perpendicular to said front panel and joining said front panel to said rear panel, a left panel parallel to said right panel, a top formed with a
10 flanged annular opening near said right panel and perpendicular to said front panel and joining said front panel to said rear panel and said left panel to said right panel, and a bottom that joins said front panel to said rear panel and that angles downward from said rear panel to said front panel;

15 a flat mounting panel having a front surface, a rear surface, a right side, and a left side and formed with a transverse rectangular aperture and connected on said rear surface to said front panel of said container wherein said rectangular aperture is aligned with said rectangular aperture of said front panel of said container;

20 a plurality of mounting brackets connected to said right and said left sides of said mounting panel;

25 a ramp having a left side, a sloped top, and a right side and connected to said interior surface of said container wherein said right side of said ramp is connected to said right panel of said container and said sloped top is angled downward from said right panel of said container towards said bottom of said container;

30 a flat, horizontal divider having a right edge, a center formed with a transverse aperture, and a left edge and connected to said ramp and said interior of said container wherein said right edge extends horizontally perpendicularly from said left side of said ramp and said left edge is perpendicularly connected to said left panel of said container to form a chute below said divider;

an annular cap which cooperates with said flanged annular opening in said top of said container;

a conveyor connected to said interior of said container to move feed from said interior of said container to said exterior of said container through said rectangular aperture located on said front panel of said container;

a motor assembly connected to said interior of said container to actuate said conveyor;

a plurality of electrical wiring having a first end and a second end and connected on said first end to said motor assembly; and

a timing assembly connected to said second end of said electrical wiring.

2. The bird feeder of claim 1 wherein said annular opening in said top of said container and said cap are adapted for threaded coupling.

3. The bird feeder of claim 1 further comprising:

a plurality of mounting flanges connected to said container for the purpose of mounting said bird feeder to a conventional bird cage.

4. The bird feeder of claim 1 wherein said container further comprises:

a timing assembly compartment connected to said interior of said container and located near said top of said container and containing said timing assembly;

a battery compartment connected to said interior of said container and located near said top of said container; and

a motor assembly compartment connected to said interior of said container and located near said bottom of said container and containing said motor assembly.

5. The bird feeder of claim 1 wherein said conveyor further comprises:

an elongated cylindrical shaft having a first end and a second end and connected on said first end to said chute formed by said divider and on said second end to said motor assembly;

an elongated rotating distribution wheel having a first end and a second end and formed with a longitudinal aperture and connected to said shaft wherein said shaft resides in said longitudinal aperture.

6. The bird feeder of claim 5 wherein said motor assembly further comprises:

5 a motor;

a drive shaft having a first end and a second end and connected on said first end to said motor and on said second end to said shaft of said distribution wheel;

a battery pack connected to said motor.

10 7. The bird feeder of claim 6 wherein said timing assembly further comprises:

a timer connected to said electrical wiring for the purpose of activating and deactivating said motor;

a keypad connected to said top of said container;

15 a display connected to said keypad and located on said top of said container;

a light emitting diode connected to said display;

a battery pack connected to said electrical wiring for the purpose of supplying power to said timer, said keypad, said display, and said light emitting diode.

20 8. The bird feeder of claim 1 wherein said right panel of said container is formed with a vertical slot and further comprises:

a transparent panel connected to said right side of said container wherein said panel is inserted into said vertical slot.

9. The bird feeder of claim 1 further comprising:

25 a funnel having a top, a bottom, a right side, and a left side and formed wherein said top of said funnel completely and snugly covers said rectangular opening in said front panel of said container when said funnel is mounted on said container;

30 a plurality of mounting brackets, each formed with a transverse aperture, and connected to said right and said left sides of said funnel wherein said plurality

of mounting brackets is aligned with said plurality of mounting brackets on said mounting panel;

a plurality of mounting screws connected to said plurality of mounting brackets of said funnel and to said plurality of mounting brackets on said mounting panel wherein each said screw passes through one said mounting bracket on said funnel and through one aligned said mounting bracket on said mounting panel; and

a plurality of nuts connected to said mounting screws.

10. The bird feeder of claim 9 wherein said funnel is shaped such that said top of said funnel is wider than said bottom and connected to said front surface of said mounting panel wherein birdseed will move from said top of said funnel to said bottom of said funnel due to the force of gravity.

11. A bird feeder comprising:

a hollow container having an approximately rectangular shape with an interior surface and an exterior surface defined by a front panel with an upper portion and a lower portion and formed with a horizontally rectangular aperture along the entire width of the lower portion, a rear panel parallel to said front panel, a right panel perpendicular to said front panel and joining said front panel to said rear panel, a left panel parallel to said right panel, a top formed with a flanged annular opening near said right panel and perpendicular to said front panel and joining said front panel to said rear panel and said left panel to said right panel, and a bottom that joins said front panel to said rear panel and that angles downward from said rear panel to said front panel;

a flat mounting panel having a front surface, a rear surface, a right side, and a left side and formed with a transverse rectangular aperture and connected on said rear surface to said front panel of said container wherein said rectangular aperture is aligned with said rectangular aperture of said front panel of said container;

a ramp having a left side, a sloped top, and a right side and connected to said interior surface of said container wherein said right side of said ramp is

connected to said right panel of said container and said sloped top is angled downward from said right panel of said container towards said bottom of said container;

5 a flat, horizontal divider having a right edge, a center formed with a transverse aperture, and a left edge and connected to said ramp and said interior of said container wherein said right edge extends horizontally perpendicularly from said left side of said ramp and said left edge is perpendicularly connected to said left panel of said container to form a chute below said divider;

10 an annular cap which cooperates with said flanged annular opening in said top of said container;

a conveyor connected to said interior of said container to move feed from said interior of said container to said exterior of said container through said rectangular aperture located on said front panel of said container;

15 a motor assembly connected to said interior of said container to actuate said conveyor;

a plurality of electrical wiring having a first end and a second end and connected on said first end to said motor assembly;

a timing assembly connected to said second end of said electrical wiring

20 a funnel having a top, a bottom, a right side, and a left side and formed wherein said top of said funnel completely and snugly covers said rectangular opening in said front panel of said container and removably connected to said container;

25 a plurality of mounting brackets connected to said right and said left sides of said mounting panel and to said right and said left sides of said funnel wherein said plurality of said brackets on said funnel are aligned with said plurality of brackets on said mounting panel;

a plurality of mounting screws connected to said plurality of mounting brackets of said funnel and to aligned said plurality of mounting brackets on said mounting panel wherein each said screw passes through one said mounting

bracket on said funnel and through one aligned said mounting bracket on said mounting panel; and

a plurality of nuts connected to said mounting screws.

12. The bird feeder of claim 11 wherein said annular opening in said top of said container and said cap are adapted for threaded coupling.

13. The bird feeder of claim 11 further comprising:

a plurality of mounting flanges connected to said container for the purpose of mounting said bird feeder to a conventional bird cage.

14. The bird feeder of claim 11 wherein said container further comprises:

a timing assembly compartment connected to said interior of said container and located near said top of said container and containing said timing assembly;

a battery compartment connected to said interior of said container and located near said top of said container; and

a motor assembly compartment connected to said interior of said container and located near said bottom of said container and containing said motor assembly.

15. The bird feeder of claim 11 wherein said conveyor further comprises:

an elongated cylindrical shaft having a first end and a second end and connected on said first end to said chute formed by said divider and on said second end to said motor assembly;

an elongated rotating distribution wheel having a first end and a second end and formed with a longitudinal aperture and connected to said shaft wherein said shaft resides in said longitudinal aperture.

16. The bird feeder of claim 15 wherein said motor assembly further comprises:

a motor;

a drive shaft having a first end and a second end and connected on said first end to said motor and on said second end to said shaft of said distribution wheel;

a battery pack connected to said motor.

17. The bird feeder of claim 16 wherein said timing assembly further comprises:
- a timer connected to said electrical wiring for the purpose of activating and deactivating said motor;
 - a keypad connected to said top of said container;
 - a display connected to said keypad and located on said top of said container;
 - a light emitting diode connected to said display;
 - a battery pack connected to said electrical wiring for the purpose of supplying power to said timer, said keypad, said display, and said light emitting diode.
18. The bird feeder of claim 11 wherein said right panel of said container is formed with a vertical slot and further comprises:
- a viewing panel connected to said right side of said container wherein said panel is inserted into said vertical slot.
19. The bird feeder of claim 18 wherein said viewing panel is transparent.
20. The bird feeder of claim 11 wherein said funnel is shaped such that said top of said funnel is wider than said bottom and connected to said front surface of said mounting panel wherein birdseed will move from said top of said funnel to said bottom of said funnel due to the force of gravity.